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ABSTRACT

It was hypothesized that teachers who are at an advanced level of conceptual development would emphasize long-range consequences of teaching and be more relative in beliefs about teaching. Fifty-six graduate student teachers were asked to complete two instruments measuring motivational and structural dimensions of conceptual development. They were also asked to complete a questionnaire measuring beliefs about teaching. The hypotheses were generally supported using the instrument measuring structural dimensions but not when using the instrument measuring motivational dimensions. It can be tentatively seen that efforts toward increasing teachers' abstractness may also increase their relativity of beliefs and emphasis on long-range consequences of teaching. Implications for teacher education are discussed. A sample of the questionnaire on beliefs about the teaching process is appended to this report. (Author/JD)

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TEACHERS' CONCEPTUAL SYSTEMS AS A PREDICTOR OF BELIEFS ABOUT THE TEACHING PROCESS

Paper presented at the annual meeting of the American Educational Research Asssociation , San Francisco, CA April 8-12,'79

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The purpose of this study was to investigate the empirical relationships of two dimensions of teachers' stated beliefs about teaching and central qualities of the teacher's personality. Can educators predict teacher's beliefs about teaching from other knowledge of teachers? Does the development of certain central qualities of personality structure lead to the viewing of long-range effects of teaching on students? Does the development of these same central qualities lead to relative rather than absolute thinking about teaching as a process?

Cognitive development refers generally to changes in ways of thinking. Through life a person evolves toward greater competence in representing and coping with his world. It is assumed that what teachers believe about the entire educational process generally determines the conditions they seek to create in the classroom. These beliefs are (1) either the emphasis on long-range consequences of teaching or the emphasis on short-term or immediate consequences , or (2) the relative versus the absolute nature of those beliefs. It was hypothesized that teachers who are at an advanced level of conceptual development would (1) emphasize long-range consequences of teaching in beliefs about the teaching process and (2) be more likely than those of low conceptual level to hold relative beliefs about the teaching process.

Fifty-six male and female graduate students who had from six months to over 15 years of teaching experience and who represented all educational levels, plus all subject matter areas, completed Harvey's Conceptual

Systems Test (1967) of motivational dimensions (those aspects of a person's conceptual system which encourage him to "tune-into" and allow him to select the content or information that reinforces and supports his preferences while consciously or unconsciously ignoring that which would not). They also completed Hunt's Paragraph Completion Method (1966) which measures structural dimensions of conceptual systems (those qualitative differences in the patterns of how people interrelate information). These measures were used independently to assign teachers to a structural conceptual system and to one of four stages of conceptual development according to motivational dimensions, prior to testing the hypotheses. Data for beliefs about teaching were obtained from an adapted instrument (Wehling and Charters, 1969) eliciting degree of agreement or disagreement to statements which represented (a) emphasis on long-range consequences versus short-term, absolute nature of beliefs about teaching, and (b) relative versus absolute nature of beliefs about teaching. Teachers were given a degree of commitment score and a degree of agreement score for beliefs concerning the emphasis on long-range consequences of teaching, and a degree of relativity score (sum of contingency statements added) for the statements which might indicate a relative or absolute belief about teaching.

Pearson product-moment correlations were used to examine the relationship of structural dimensions of CL and beliefs about teaching. Analyses of variance were used to determine whether the differences among groups of teachers classified at different conceptual systems defined by motivational dimensions and jointly defined by motivational and structural dimensions of CL with respect to beliefs about teaching could be attributed to chance. Results at the .05 level of significance indicated :

1. Statistically significant relationships between teachers' CL (structural dimensions) and beliefs concerning the emphasis on long-

range consequences of teaching (degree of agreement, .486, df 54; degree of commitment -.349, df 54).

2. No statistically significant differences using motivational dimensions of CL and teachers' mean scores on beliefs concerning the emphasis on long-range consequences of teaching.

3. Statistically significant differences for degree of commitment (2.90) to beliefs concerning the emphasis on long-range consequences of teaching when teachers were jointly classified by both motivational and structural dimensions of CL. No statistically significant differences were found for degree of agreement with such beliefs.

4. No statistically significant relationships between teachers' CL and degree of relativity of beliefs about teaching regardless of which dimension of CL was used.

This study gave support for the hypothesis concerning the emphasis on long-range consequences of teaching when structural dimensions of CL was used, but not when motivational dimensions was used. In no test was support given to the hypothesis relating CL with relativity of beliefs.

Since the future is unlikely to be like the past and the ability to deal with new alternatives might be more important than learning mere facts, one might presuppose that it is desirable that teachers are (a) concerned for the long-range consequences of teaching and (b) relative, not absolute in their beliefs about teaching. Thus, several implications seem implicit for teacher education .

1. Teacher educators should adopt a qualitative rather than quantitative concern for the training of teachers. Alternative experiences should be considered by attempting to match the present stage of personality development (Hunt, 1971) to the training environment tailored to characteristics of

that stage in order to "pull" students to the next stage. Students of low CL need tasks of low complexity with high structure, and persons of high complexity need an emergent structure with higher task complexity and an interdependent social system.

2. In order to enable prospective teachers to see the long-range consequences of teaching, teacher educators need to help them eliminate the preoccupation with old and familiar material and intellectually "stretch" themselves by providing situations in which new concepts can be formed.

3. No one "cookbook" method of teaching will be advocated so students can become more relative in thinking by utilizing the educational context, the students, and the educational objectives desired.

The study established the need to analyze the structure of beliefs about teaching rather the content of those beliefs. Future research should center on this aspect, and utilize measurement techniques for beliefs about teaching that have theoretical consistency with Conceptual Systems Theory. This would be attempting to ascertain how persons delineate between means and ends, whether or not they can differentiate among goals at different levels of abstractness and how they can integrate information into a meaningful whole. A further suggestion would be to utilize the entire interactive theoretical framework identified (Kelly, 1955), i.e. observe teachers in a classroom situation where the context, the educational objectives and the students can all be observed.

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APPENDIX A

BELIEFS ABOUT THE TEACHING PROCESS

(adaptation of L. Wehling and W.W. Charter's instrument,1969)

The following statements indicate a belief that teachers have concerning the teaching process. You are asked to respond to these statements to the degree that you endorse these beliefs. Please indicate your belief by putting the number corresponding to your degree of belief on the line in front of the statement. Degrees of endorsement are:

1. Strongly agree
2. Agree
3. Mildly agree
4. Mildly disagree
5. Disagree
6. Strongly disagree

In the event that you cannot endorse one of the six alternatives listed for each statement, tell why you cannot agree or disagree with it. Please write directly on this instrument----just below or after the statement.

_____1. Teaching of specific skills and factual subject matter is the most important function of the school.

_____2. Learning is essentially a process of increasing one's store of information about various fields of knowledge.

_____3. Students learn to stay alert when they are expected to respond immediately to teacher demands.

_____4. Students learn best in an atmosphere filled with love and emotional support.

_____5. The curriculum consists of subject matter to be learned and skills to be acquired.

_____6. A good teacher will establish a routine and stick to it.

_____7. Optimum learning takes place when the classroom setting is completely free of distraction.

DEGREES OF ENDORSEMENT:

1. Strongly agree
2. agree
3. mildly agree
4. mildly disagree
5. disagree
6. Strongly disagree

_____ 8. The basic function of education is fulfilled only when students are led to understand the general significance of the material they have learned.

_____9. The teacher must avoid strict adherence to the sequence provided by a textbook series.

_____10. The deep interest which students sometimes develop in one subject can be valuable to them, but only if teachers succeed in broadening their perspectives across subject matter boundaries.

_____11. Teachers increase their chances of directing the work into productive channels by having students participate in the planning.

_____12. Students gain more satisfaction from doing a difficult task well than from any other achievement.

_____13. Students gain better understanding of the subject if assignments are presented to them as a series of interrelated problems.

_____14. Proper control of a class is amply demonstrated when students work quietly while the teacher is out of the room.

_____15. Students respect teachers who expect them to work hard in school.

_____16. Student failure is averted when mastery of the subject matter is the prime requisite for promotion.

_____17. The effectiveness of teaching is enhanced when the teacher has the ability to see the world as each of his students sees it.

PAGE 3 DEGREES OF ENDORSEMENT:

1. Strongly agree
2. Agree
3. Mildly agree
4. Mildly disagree
5. Disagree
6. Strongly Disagree

_____18. Group activity teaches students to think and plan together, independent of direct supervision by the teacher.

_____19. There is too great an emphasis on keeping order in the classroom.

_____20. The teacher who organizes the material and presents it to students in a forceful way gets the best results.

_____21. Learning is enhanced when the accomplishments of students are praised generously by the teacher.

_____22. Students must be kept busy or they soon get into trouble.

_____23. Students do their best work when they know exactly what to expect from day to day.

_____24. The backbone of the school curriculum is subject matter; activities are useful mainly to facilitate the learning of subject matter.

_____25. The teacher assures optimum learning conditions by giving top priority to the social-emotional needs of the students.

_____26. In teaching it is quite essential to cover the material in the course of study.

_____27. Students never really understand a subject until they can relate what they have learned to the broader problems of the world.

_____28. A well established classroom routine enhances the emotional stability of students.

PAGE 4

DEGREES OF ENDORSEMENT:

1. Strongly agree
2. Agree
3. Mildly agree
4. Mildly disagree
5. Disagree
6. Strongly disagree

_____29. Before students are encouraged to exercise independent thought they should be thoroughly grounded in the facts and knowledge about the subject.

_____30. The student's knowledge is best developed when teachers interrelate facts and figures from many different subject matter fields.

_____31. Students who misbehave or do not learn are generally children who need love.

_____32. The effective teacher has complete control of the learning situation at all times.

_____33. Students learn best when permitted to set their own pace in doing the work.

_____34. Students learn self direction by having opportunities to set their own goals for learning.

_____35. The logical structure of subject matter is the most realistic guide to the organization of the work in the classroom.

_____36. Establishing the rules well in advance strengthens the teacher's hand in meeting the various problems that might arise.

_____37. The overall plan of education suffers when teachers depart substantially from the subject outline.

_____38. Students frequently learn much more under their own initiative than they do under teacher direction.

PAGE 5 DEGREES OF ENDORSEMENT:

1. Strongly agree
2. Agree
3. Mildly agree
4. Mildly disagree
5. Disagree
6. Strongly disagree

_____39. Nothing captures student's interests in school work as quickly as allowing them to wrestle with problems of their own choosing.

_____40. Across the school routine imposes a consistency in classroom procedure which tends to restrict important avenues for learning.

_____41. Small group work uses the contrasting personalities, skills and interests students have to best advantage.

_____42. Lessons presented in the form of problems to be solved are the best means for motivating students.

_____43. Children should be given more freedom in the classroom than they usually get.

_____44. The effectiveness of the teacher depends entirely on the amount of personal interest he can invest in the progress of each student.

_____45. The pupil's impression of the teacher's personality greatly influences what he learns.